REMARKS

Claims 1-8, 19-26, 37-44 and 55-60 are pending in this application. By this Amendment, claims 1, 19 and 37 are amended. Support for the additional features recited in the amended claims 1, 19 and 37 is found in the specification, at least at page 30, lines 5-16. Reconsideration based on the above amendments and following remarks is respectfully requested.

I.   Pending Claims 1-8, 19-26, 37-44 and 55-60 Define Patentable Subject Matter

The Office Action rejects claims 1, 2, 19, 20, 37, 38 and 55-60 under 35 U.S.C. §103(a) over U.S. Patent No. 5,218,350 to Bollman (hereafter "Bollman") in view of U.S. Patent No. 4,935,879 to Ueda (hereafter "Ueda"); claims 3, 21 and 39 under 35 U.S.C. §103(a) over Bollman and Ueda, and further in view of U.S. Patent No. 6,611,264 to Regan (hereafter "Regan"); claims 4, 5, 8, 22, 23, 26, 40, 41 and 44 under 35 U.S.C. §103(a) over Bollman and Ueda, and further in view of U.S. Patent No. 6,597,363 to Duluk (hereafter "Duluk"); and claims 6, 7, 24, 25, 42 and 43 under 35 U.S.C. §103(a) over Bollman and Ueda, and further in view of U.S. Patent No. 6,236,405 to Schilling (hereafter "Schilling"). The rejections are respectfully traversed.

Regarding independent claims 1, 19 and 37, the Office Action asserts that Bollman, at col. 3, lines 13-15 and 52-66, and col. 4, lines 4-43, discloses all features of the claims, except for the 'index color texture-mapping' feature set forth in claims 1, 19 and 37. The Office Action further asserts that Ueda, at col. 9, lines 32-38, discloses this feature, and that it would have been obvious to combine this feature with the features of Bollman.

However, contrary to the Office Action's assertions, Bollman in combination with Ueda does not disclose or suggest an index number setting section which sets image information of an original image as an index number in a lookup table for index color texture-mapping, the index color texture-mapping being texture-mapping which maps a texture onto

an object while referring to the lookup table, the index number being set to each texel of the texture in a texture space, and the texture linking to image information to be texture-mapped, as set forth in independent claim 1, and similarly set forth in independent claims 19 and 37.

Bollman, at col. 3, line 67 to col. 4, line 38, discloses that an original image initially defined in 24 bit color is first reduced to a predetermined number of colors (a color set). Next, each color in the reduced color set is indexed in an 8 bit lookup table. Thus, in Bollman, the lookup table includes index number information of a reduced number of colors present in the original image. In contrast to Bollman, claims 1, 19 and 37, the image information of an original image is set as an index number in the lookup table.

Further, because Bollman fails to set image information of an original image as an index number in the lookup table, Bollman in combination with Ueda fail to disclose or suggest a drawing section which transforms the image information of the original image by performing index color texture-mapping on a virtual object by using the lookup table in which the image information of the original image is set as the index number, as set forth in independent claim 1, and similarly set forth in claims 19 and 37.

The texture-mapping set forth in the various exemplary embodiments according to this invention, makes it possible to map a texture onto an object, transform the image information of an original image at a high-speed, and set the image information of the original image as an index number. In this way, the invention set forth in claims 1-8, 19-26, 37-44 and 55-60 may save the usable capacity in the storage section.

In contrast, Bollman discloses a reading and converting LUT values to luminance/ chrominance, as recited in step 30 of Fig. 1. Bollman, however, is devoid of any disclosure regarding mapping a texture onto an object or transforming the image information of an original image while referring to the lookup table.

Further, unlike the invention set forth in claims 1-8, 19-26, 37-44 and 55-60, Bollman does not perform setting the image information of the original image as an index number, nor texture-mapping and transforming the image information of an original image while referring to the lookup table which is set as an index number.

Ueda, Regan, Duluk and Schilling fail to make up for the deficiencies of Bollman.

For example, Ueda merely discloses a conventional index color texture mapping. In Ueda, color data is output from the color look-up table memory 10 based on the texture coordinates uj, vj from the dual port memory 2. In Ueda, the position of a texel is specified in the texture space based on the texture coordinates uj, vj from the dual port memory 2. Subsequently, in Ueda, the look-up table (LUT) 10 is referred to based on the index number stored in the specified texel to output color data from the color look-up table 10.

Further, as discussed above, Ueda does not disclose transforming the image information of an original image. As described in the Ueda, at BACKGROUND ART section of the Specification, the structure of Ueda requires performing gamma correction (which is one example of transforming the image information of an original image) through either performing processing other than texture-mapping or using dedicated hardware. Thus, the structure of Ueda increases the processing load. Thus, the processing load is greater in Ueda than in the present invention.

Further, contrary to the Office Action's assertion, there is no motivation, absent Applicant's disclosure, to combine the teachings of Ueda with those of Bollman. As admitted by the Office Action, Bollman lacks any disclosure regarding texture-mapping. Ueda, as discussed above, only discloses a conventional approach to performing index color texture mapping. The mere fact that the applied art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the applied art suggests the

desirability of the modification. Neither Bollman nor Ueda suggests the desirability of the modification.

Further, contrary to the Office Action's assertion at page 4, Ueda, in Fig. 7, does not disclose that the virtual object is a polygon having a size equal to a size of a display screen, as set forth in dependent claims 2, 20 and 38. Ueda, in Fig. 7, and at col. 9, lines 3-22, simply discloses two texture areas of two virtual objects being mapped as two separate polygons, each of which having a size less than half the size of the display screen.

II.   Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-8, 19-26, 37-44 and 55-60 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,
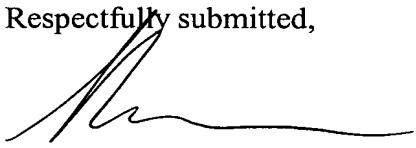
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